

The embodiments of the invention in which an exclusive property or privilege are claimed are defined as follows:

- 1 1. A computer system reasoning model component for generating user recommendations for a
2 defined knowledge base, the component comprising
3 a component for storing, maintaining and representing a decision graph definable by an
4 author, the decision graph comprising nodes and links between the nodes, the nodes
5 comprising
6 a set of decision nodes, and a set of feedback nodes,
7 each of the nodes in the decision graph comprising rules defined by the author
8 to define links to other nodes in the graph, and
9 for a decision node, to request and obtain user information, and
10 for a feedback node, to provide feedback to users, and
11 a component to traverse the decision graph and fire the rules defined in the decision graph
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1 5. The computer system component of claim 1 in which the rules defining links to other nodes in
2 the graph comprise rules accessing and evaluating one or more of:

- 3 a) personalization choices collected implicitly or explicitly from the user,
- 4 b) static data relating to the user,
- 5 c) a dynamically generated user model,
- 6 d) attributes of elements in the knowledge base, and
- 7 e) author-related goals.

8
1 6. The computer system component of claim 1 in which the decision graph comprises multiple
2 entry points.

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4 7. The computer system component of claim 1 in which the decision graph comprises nodes
5 potentially chaining the decision graph to other decision systems.

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7 8. The computer system of claim 1 in which the rules defining links between nodes in the decision
8 graph utilize one or more of :

- 9 a) weighting systems,
- 4 b) fuzzy logic systems, and
- 5 c) probabilistic reasoning.

1 9. A computer system reasoning model component for generating user recommendations for a
2 defined knowledge base, the component comprising :

3 a component for storing, maintaining and representing a decision graph definable by an
4 author, the decision graph comprising nodes and links between the nodes, the nodes
5 comprising

6 a set of decision nodes, and a set of feedback nodes, the decision nodes comprising:
7 question nodes and the feedback nodes comprising recommendation and promotion
8 nodes, each of the nodes in the decision graph comprising rules defined by the
9 author to define links to other nodes in the graph, and

10 for a decision node, to request and obtain user information, and

11 for a feedback node, to provide feedback to users,

12 the rules defining links to other nodes in the graph comprising rules accessing and
13 evaluating one or more of:

14 (f) personalization choices collected implicitly or explicitly from the user,

15 (g) static data relating to the user,

16 (h) a dynamically generated user model,

17 (i) attributes of elements in the knowledge base, and

18 (j) author-related goals; and utilize one or more of:

19 (i) weighting systems,

20 (ii) fuzzy logic systems, and

21 (iii) probabilistic reasoning, and

22 a component to traverse the decision graph and fire the rules defined in the graph nodes.

1 10. A computer program product for providing user recommendations, the computer program
2 product comprising a computer usable medium having computer readable code means embodied

in said medium, comprising computer readable program code means for implementing the system component of any of claims 1 to 10.

11. The computer program product of claim 10 wherein said computer readable code means comprises a computer readable signal and said medium comprises a computer readable signal-bearing medium.

12. The program product of claim 11 wherein said medium is a recordable data storage medium.

13. The product of claim 11 wherein said medium is a modulated carrier signal.

14. The product of claim 13 wherein said signal is a transmission over a network.

15. A computer program comprising computer program code means adapted to establish the components of claim 1 when said program is run on a computer system.